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MAINE

OCCUPATIONAL

STAFFING PATTERN

For

EDUCATIONAL SERVICES

INDUSTRY

Data for October 1979

BUREAU OF EMPLOYMENT SECURITY
DIVISION OF ECONOMIC ANALYSIS AND RESEARCH 20 UNION STREET, AUGUSTA, ME 04330
A BUREAU OF THE MAINE DEPARTMENT OF LABOR

BEST AVAILABLE CO

MAINE OCCUPATIONAL STAFFING PATTERN

FOR

EDUCATIONAL SERVICES INDUSTRY

OCTOBER 1979

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PREFACE

We wish to express our thanks to the many school systems and employers who cooperated in filling out the questionnaire which supplied part of the necessary occupational employment data on which the estimates presented herein are based, and to the Maine Department of Educational and Cultural Services who gave permission to use the data in their "Staff Information System" and assisted in extracting the data in a format compatable with the Occupational Employment Statistics Program.

We also wish to extend our thanks to the U.S. Department of Labor, both in Washington, D.C. and the regional level in Boston, Massachusetts, for their assistance in this federal-state cooperative effort.

TABLE OF CONTENTS

	Page
INTRODUCTION.....	1
EDUCATIONAL SERVICES, SIC 82.....	3
METHODOLOGY.....	11
TECHNICAL NOTES.....	13

INTRODUCTION

This publication is one of a continuing series of reports presenting occupational profiles of selected industries in Maine. The information in these reports is a direct result of the survey phase of the Occupational Employment Statistics (OES) program.

The OES program is a federal-state cooperative endeavor involving the Maine Department of Labor and the U.S. Department of Labor's Bureau of Labor Statistics and Employment and Training Administration. The purpose of this program is to collect occupational information from the private and public sectors of the economy in order to establish occupational profiles in industry and government and to provide a base for projections of future occupational demand. The data contained in this report is also useful to planners, economists, and educators in evaluating educational and training programs and in assisting employers to maintain a balance between the supply and demand of trained personnel.

This report presents the staffing pattern in the educational services industry, including both public and private sector establishments. This is the first survey of educational services conducted by the OES program.

EDUCATIONAL SERVICES

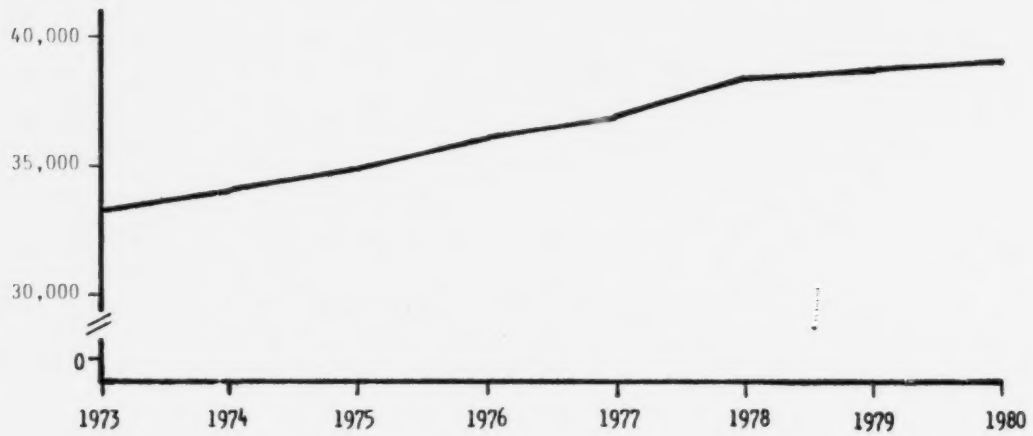
SIC 82

This major industry group includes establishments furnishing formal academic or technical courses, correspondence schools, commercial and trade schools, and private libraries and information centers.

Annual average employment in education grew about 10 percent between 1975 and 1979. Public schools administered by local governments employed the largest number of people in this industry and also added about 950 jobs during this period. Employment in schools operated by state government increased 25 percent during this period adding over 1,770 new workers. Private schools continued to be the smallest sector of this industry but still added 870 new jobs between 1975 and 1979.

The employment projections to 1982 indicate little growth will occur in educational services, with an expected annual increase of 0.3 percent. While new opportunities will be limited in this industry, the two major occupations of teacher, elementary and/or preschool and teacher, secondary school are expected to have a significant number of openings due to replacement of those who die, retire, or otherwise leave the labor force.

ANNUAL AVERAGE WAGE AND SALARY
EMPLOYMENT IN EDUCATIONAL SERVICES
MAINE, 1973-1980



The table below presents the percent distribution of establishments and employment by establishment size class for the educational services industry in Maine as of October 1979:

Establishment Size (No. of Employees)	Percent of Establishments	Percent of Employment
1- 19	43.7	4.8
20- 49	23.3	9.0
50- 99	11.4	8.9
100-249	14.7	34.0
250-499	4.9	21.1
500-999	1.2	4.8
1,000+	0.8	17.4

Employees in Maine's educational services industry received an annual average covered wage of $10,358 in 1980, an increase of nearly 6 percent over 1979 wage levels. Employees of public schools administered by the State averaged the highest salaries in 1980 receiving $12,282 annually. Public schools administered by local governments paid an annual average of $10,012 to employees in 1980. Private schools paid the lowest covered wage to its employees in 1980, an annual average of $9,897. The higher covered wage paid by State-administered schools reflects a larger number of post-secondary institutions where salaries normally tend to be higher than elementary and secondary schools which dominate the local government sector of educational services.

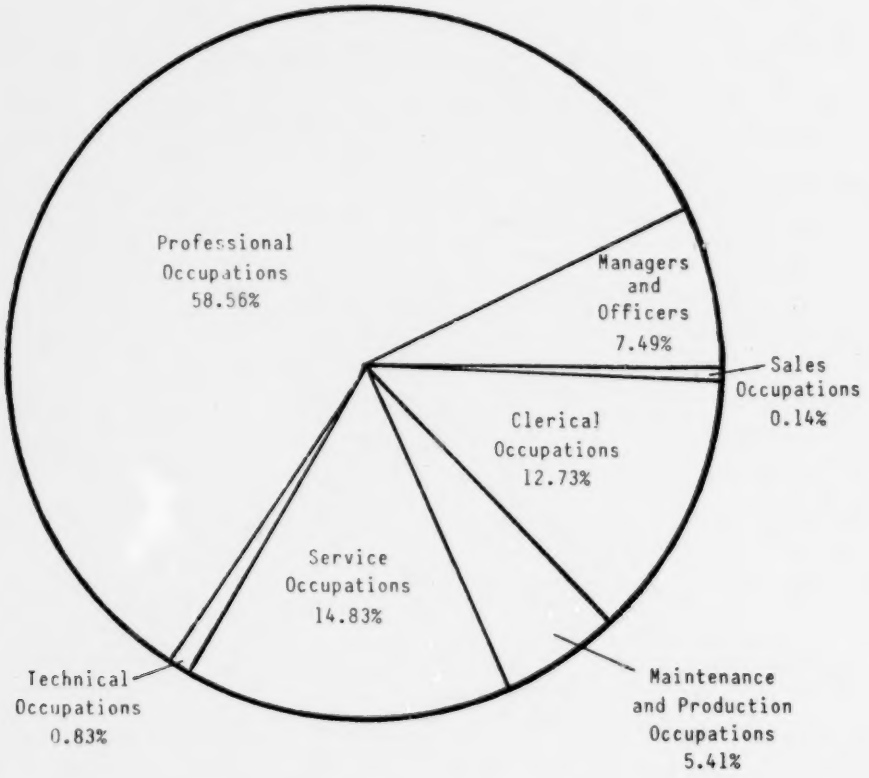
According to the Maine Department of Educational and Cultural Services, full-time elementary teachers in the public school system averaged $13,543 in the 1980-81 school year while secondary school teachers in this sector averaged $14,743 during this time period. Wages for all full-time professional workers in public schools averaged $14,462. All of these wages represent a 7 percent increase over the wages received during the prior school year.

The educational services industry employed 36,200 persons in October 1979. Nearly 60 percent of the workers in this industry were professionals. The two occupations with the largest employment were elementary and/or preschool teachers and secondary school teachers. Together they account for over 40 percent of total employment in this industry. Other specific occupations with significant employment were janitor, porter or cleaner; secretary; and teacher aide and/or educational assistant.

In descending order, the 10 most frequently reported occupations in this industry were janitor, porter, or cleaner; principal; teacher, elementary and/or preschool; secretary; superintendent; teacher aide and/or educational assistant; librarian, professional; cook, institution; teacher, secondary school; and bus driver, school.

Two-thirds of the total employment in this industry, or 24,310 workers, are concentrated in just 10 occupations. These occupations are identified in the bar graph on the following page.

PERCENTAGE OF EMPLOYMENT BY MAJOR OCCUPATIONAL CATEGORIES
IN EDUCATIONAL SERVICES (SIC 82)
OCTOBER 1979



OCCUPATIONS EMPLOYING THE LARGEST NUMBER OF WORKERS IN EDUCATIONAL SERVICES

EDUCATIONAL SERVICES

SIC 82

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	36,200	100.00	na	na
Managers and Officers	2,710	7.49	na	na
Principal	720	1.99	3	69
Assistant Principal	310	0.86	5	36
Superintendent	310	0.86	3	53
All Other Managers and Officers	1,370	3.78	na	na
Professional Occupations	21,200	58.56	na	na
Psychologist	30	0.08	16	6
Systems Analyst, Electronic Data Processing	10	0.03	10	1
Teacher, Secondary School	5,530	15.28	3	43
Teacher, College, Junior College, University, Professional School, or Technical Institute	840	2.32	11	7
Teacher and/or Instructor, Vocational Education or Training	220	0.61	20	8
Teacher and/or Instructor, Nonvocational Education	930	2.57	12	15
Vocational and Educational Counselor	420	1.16	4	34
Professor	450	1.24	5	5
Associate Professor	670	1.85	5	6
Assistant Professor	600	1.66	3	4
Lecturer	400	1.10	7	4
Athletic Coach	70	0.19	15	8
Teacher, Elementary and/or Preschool	8,770	24.23	2	67
All Other Teachers	470	1.30	5	29
Accountant and/or Auditor	20	0.06	11	5
Caseworker	70	0.19	12	9
Dietitian and/or Nutritionist	20	0.06	15	2
Librarian, Professional	340	0.94	3	49
Nurse, Professional	220	0.61	5	33
Personnel and Labor Relations Specialists	20	0.06	5	1
Physical Therapist	10	0.03	40	1
Physician and/or Surgeon	10	0.03	36	2
All Other Therapists	20	0.06	na	na
Speech Pathologist and/or Audiologist	210	0.58	5	34
Audio-Visual Specialist	40	0.11	21	7
Curriculum Specialist	60	0.17	15	11
All Other Professional Workers	750	2.07	na	na
Technical Occupations	300	0.83	na	na
Computer Programmer	20	0.06	14	4
Licensed Practical Nurse	20	0.06	41	2
Technical Assistant, Library	60	0.17	10	7
All Other Technical Workers	200	0.55	na	na

SIC 82 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Service Occupations	5,370	14.83	na	na
Supervisor, Nonworking	90	0.25	8	5
Janitor, Porter, or Cleaner	2,490	6.88	2	82
Guard or Doorkeeper	100	0.28	10	9
Baker, Bread and/or Pastry	80	0.22	17	7
Dining Room Attendant, Bartender Helper, or Cafeteria Attendant	40	0.11	39	2
Kitchen Helper	920	2.54	7	35
Counter Attendant, Lunchroom, Coffee Shop, or Cafeteria	460	1.27	16	13
Pantry, Sandwich, and/or Coffee Maker	70	0.19	15	3
Cook, Institution	820	2.27	7	43
All Other Food Service Workers	60	0.17	na	na
All Other Service Workers	240	0.66	na	na
Maintenance and Production Occupations	1,960	5.41	na	na
Supervisor, Nonworking	50	0.14	7	7
Mechanic, Automotive	70	0.19	15	9
All other Mechanics and Repairers	10	0.03	na	na
Carpenter	40	0.11	9	3
Electrician	20	0.06	8	3
Maintenance Repairer, General Utility	290	0.80	6	24
Helper, Trades	30	0.08	27	1
Painter, Maintenance	40	0.11	6	4
Stationary Boiler Firer	30	0.08	14	3
Gardener and/or Groundskeeper	120	0.33	12	10
Bus Driver, School	1,180	3.26	7	41
All Other Skilled Craft and Kindred Workers	40	0.11	na	na
All Other Operatives and Semiskilled Workers	30	0.08	na	na
All Other Laborers and Unskilled Workers	10	0.03	na	na
Clerical Occupations	4,610	12.73	na	na
Clerical Supervisor	20	0.06	6	2
Bookkeeping and/or Billing Machine Operator	30	0.08	32	4
Computer Operator	10	0.03	19	3
Keypunch Operator	20	0.06	12	2
All Other Office Machine Operators	10	0.03	na	na
Stenographer	130	0.36	5	2
Accounting Clerk	50	0.14	8	4
Bookkeeper, Hand	220	0.61	6	40
Cashier	30	0.08	20	3
File Clerk	10	0.03	23	2
General Clerk, Office	510	1.41	12	30
Library Assistant	300	0.83	6	27
Mail Clerk	20	0.06	8	3
Payroll/Timekeeping Clerk	20	0.06	8	3
Personnel Clerk	10	0.03	38	1
Receptionist	30	0.08	7	1
Secretary	1,510	4.17	4	65

SIC 82 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Switchboard Operator	30	0.08	23	2
Switchboard Operator/Receptionist	10	0.03	13	4
Typist	150	0.41	11	4
Teacher Aide and/or Educational Assistant	1,320	3.65	6	50
Admissions Evaluator	50	0.14	10	5
All Other Office Clerical Workers	60	0.17	na	na
Stock Clerk, Stockroom, Warehouse, or Storage Yard	50	0.14	10	6
All Other Plant Clerical Workers	10	0.03	na	na
Sales Occupations	50	0.14	na	na
Sales Clerks	50	0.14	13	2

METHODOLOGY

The Sample

A variety of sources were used to develop the sample of establishments to be covered by this OES survey of educational services. The National Center for Education Statistics (NCES), through the U.S. Bureau of Labor Statistics, supplied the sample for public and private elementary and secondary schools. This list of sample establishments was compared with the "Maine Educational Directory" published by the Maine Department of Educational and Cultural Services and suitably modified. The report of Employment, Wages, and Contributions covered by the Maine Employment Security Law was used as a sampling frame for the remainder of this survey, i.e., colleges, universities, professional schools and junior colleges; private libraries and information centers; correspondence and vocational schools; and schools and educational services not elsewhere classified.

This sample included 267 establishments of which 212 units, or 79.4 percent, responded.

The Survey

Two different methods were used to collect data from the various types of establishments included in this survey. Questionnaires similar to those used in other surveys in the Occupational Employment Statistics (OES) program were mailed to colleges, universities, professional schools, junior colleges, private libraries and information centers, correspondence schools and vocational schools, and specialized nondegree granting schools such as music schools, art schools, and schools providing automobile driving lessons and flying instruction. One follow-up mailing was sent to nonrespondents.

Much of the data that was needed from public and private elementary and secondary schools is routinely collected and stored in the "Staff Information System" by the Maine Department of Educational and Cultural Services. A computer produced questionnaire was developed, by school, which tapped into this information system and thus already included the employment for many of the occupations listed. This partially completed form was then mailed to the school which was asked to supply the number of workers it employs in those occupations not listed in the "Staff Information System." One follow-up mailing was sent to nonrespondents.

The Screening, Editing, and Estimating Procedure

Each completed questionnaire returned was edited and screened both manually and mechanically for consistency and accuracy. The resulting "clean data file" served as the basis for calculating estimates. The clean employer questionnaires were separated into seven size groups by industry, the size being determined by the number of persons employed by each. The reported total employment and occupational employment on each form was then multiplied by the weight, or the inverse of the sampling ratio, which had been assigned to it during sample selection. For public

and private elementary and secondary schools, these weights, by size class, had to be adjusted upwards to account for nonresponse. Occupational estimates for the remaining parts of this survey were calculated using the "ratio estimate" method which is used in the other surveys conducted by the OES program. The weighted data was tied into the universe employment, called the estimating benchmark, which came from the October 1979 ES-202 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law. The total weighted survey data by size class, by detailed industry, was divided into the universe data for corresponding size and industry classes. This produced benchmark factors which were applied to the occupational data, thus accounting for any nonresponding units and any new units which emerged after the sample had been drawn. The resulting occupational estimates were summed across size classes, then across detailed industry levels to the survey totals, rounded to the nearest ten, and published here. The percent of occupational distribution was then calculated.

Accuracy of Occupational Employment Data

There are two types of errors which affect the accuracy of the estimates published here--sampling and nonsampling errors. Sampling error is a specific arithmetic measure of the precision of an estimate. It is the difference between the estimate computed from the sample data and the result that would be obtained if the same methods were used to collect identical information from the entire population or universe.

The relative error entries listed in this report are the sampling errors of each occupation expressed as a percent of that occupational estimate. In other words, the chances are two out of three (a 68 percent confidence level) that the results of a comparable full-scale data collection (the universe) using the same survey approach would not differ by more than the percent error shown. The chances are 19 out of 20 (a 95 percent confidence level) that the results would not differ by more than twice the percent error shown. For example, it is estimated in this report that there are 340 professional librarians employed in the educational services industry with a 3 percent relative error. Thus, at a 68 percent confidence level, it is assured that the results of a full-scale count of professional librarians in this industry would not differ from this estimate by more than 10, or 340 times 3 percent.

Nonsampling errors result from external factors in a survey rather than from the fact that a sampling technique was used. Examples of these errors are response errors, processing errors, computational errors, etc. The possibility of these errors was recognized from the start of the survey and every effort was made to avoid them.

TECHNICAL NOTES

Data Presentation

If only one or two establishments reported a particular occupation, that occupational estimate is not shown in this publication, but has been added to the appropriate "All Other" residual category.

Rounding

Detail may not add to the estimated totals due to rounding.

Relative Error

The relative error was computed only for specific occupations and not for residual categories nor for occupational groupings. If the relative error of an occupational estimate exceeded 50 percent, the employment for that occupation was added to the residual category relevant to it. The relative error relates to the actual estimate before rounding. For an example of how the relative error is applied, see Accuracy of Occupational Data in the Methodology.

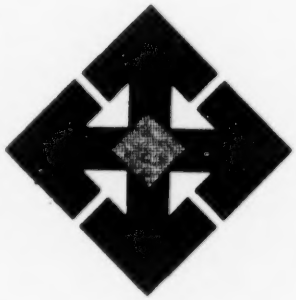
Percent of Establishments Reporting the Occupation

The percent of establishments reporting each occupation could not be readily calculated for groups of occupations, but only for specific occupations.

Abbreviations

na - not applicable
SIC - Standard Industrial Classifications
Empl. - Employment

The perceptual movement of the figure illustrates the two facets of research. Viewed one way, the four small arrows pointing to the central square represent the varied inputs to a research project. Viewed another way, the four large arrows pointing outward represent the widespread dissemination of the results of research.



Division of Economic Analysis and Research

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